UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/808,258 | 03/24/2004 | Yukihisa Takeuchi | 789 123 | 4169 |

25191 7590 03/19/2007

BURR & BROWN
PO BOX 7068
SYRACUSE, NY 13261-7068

| EXAMINER | |
|---|---|
| SHERMAN, STEPHEN G | |
| **ART UNIT** | **PAPER NUMBER** |
| 2629 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|---|---|---|
| 3 MONTHS | 03/19/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/808,258 | TAKEUCHI ET AL. | |
| | Examiner | Art Unit | |
| | Stephen G. Sherman | 2629 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *02 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-15,19-33,37,39-42,46-52 and 56* is/are pending in the application.

4a) Of the above claim(s) *3-9,12,13,15,21-27,30,31 and 33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,10,11,14,19,20,28,29,32,37,39-42,46-52 and 56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 November 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

1. This office action is in response to the amendment filed the 2 March 2007. Claims 1,2,10,11,14,19,20,28,29,32,37,39-42,46-52 and 56 have been elected for prosecution and the claims withdrawn from consideration are 3-9,12,13,15,21-27,30,31,33. Claims 16-18, 34-36, 38, 43-45, and 53-55 have been cancelled.

### *Response to Amendment*

2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### *Response to Arguments*

3. Applicant's arguments with respect to claims 1,2,10,11,14,19,20,28,29,32,37,39-42,46-52 and 56 have been considered but are moot in view of the new ground(s) of rejection.

### *Double Patenting*

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory

obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1,2,10,11,14,19,20,28,29,32,37,39-42,46-52 and 56 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of copending Application No. 10/877,517. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are obvious variations of each other.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The following is an example for comparing claim 1 of this application and claim 1 of copending Application No. 10/877,517.

| Claim 1 of the current application | Claim 1 of copending Application No. 10/877,517 |
|---|---|
| A display apparatus having a plurality of | An electron emitter comprising: |

| | |
|---|---|
| electron emitters arrayed in association with a plurality of pixels, for emitting electrons from the electron emitters to display an image, | an emitter made of a dielectric material; and a first electrode and a second electrode for being supplied with a drive voltage for emitting electrons |
| each electron emitter including a first electrode and a second electrode in direct contact with said electron emitter, wherein: | said first electrode being disposed on a first surface of said emitter; said second electrode being disposed on a second surface of said emitter; at least said first electrode having a plurality of through regions which said emitter is exposed; |
| necessary charges are accumulated in all the electron emitters in a first period; | wherein electrons are emitted from said first electrode toward said emitter to charge the emitter in a first stage, |
| a voltage required to emit electrons is applied to all the electron emitters to cause a plurality of electron emitters which correspond to pixels to emit light therefrom, for emitting light from said pixels, in a second period after said first period; and | and electrons are emitted from said emitter in a second stage. |
| light is emitted from said pixels only during said second period. | |

As can be seen above, the first difference between claim 1 of the current application and claim 1 of copending Application No. 10/877,517 is that claim 1 of the current application is claiming a display apparatus having a plurality of electron emitters for emitting electrons to display an image and claim 1 of copending Application No. 10/877,517 is only claiming an electron emitter, however, paragraph [0004] of copending Application No. 10/877,517 explains that electron emitters are used in FEDs, where a plurality of electron emitters are arranged in a two-dimensional array, which means that although this feature is not claimed in copending Application No. 10/877,517, it would have been obvious to "one of ordinary skill" in the art at the time

the invention was made to claim this feature since it is a well known application of an electron emitter.

The second difference between claim 1 of the current application and claim 1 of copending Application No. 10/877,517 is that claim 1 of the current application claims "each electron emitter including a first electrode and a second electrode in direct contact with said electron emitter" while copending Application No. 10/877,517 claims "said first electrode being disposed on a first surface of said emitter; said second electrode being disposed on a second surface of said emitter," however, although it is not explicitly stated in the claim that the electrodes are in direct contact with the emitter, Figure 1 of copending Application No. 10/877,517 shows that the electrodes are in fact in direct contact with the electron emitter and therefore it would have been obvious to claim this feature.

The third difference between claim 1 of the current application and claim 1 of copending Application No. 10/877,517 is that claim 1 of the current application claims "light is emitted from said pixels only during said second period" while copending Application No. 10/877,517 does not claim this feature, however, since light emission will only occur when the electrons are emitted from the emitter, light emission will only take place in the second period of copending Application No. 10/877,517, so while this feature is not claimed, it is implied, and therefore it would have been obvious to claim this feature.

The last difference between claim 1 of the current application and claim 1 of copending Application No. 10/877,517 is that claim 1 of the copending Application No.

10/877,517 claims "an emitter made of a dielectric material" and "at least said first electrode having a plurality of through regions which said emitter is exposed," while the current application does not claim these features, however, since the present claim 1 is in comprising format which includes any unclaimed features therefore, the present claim are not patentably distinct from the copending claim.

***Regarding claim 2***, the current application is claiming the drive circuit structure for scanning the electron emitters and that the charge amounts and electron emitted depend upon the luminance level of the pixels during the frame period. While the copending application is not claiming these features, Figure 19 and paragraphs [0162]-[0169] explain these features, and therefore it would have been obvious to claim these features.

***Regarding claim 10***, the current application is claiming an amplitude modulating circuit. While the copending application is not claiming this feature, paragraph [0167] explains this feature, and therefore it would have been obvious to claim this feature.

***Regarding claim 11***, the current application is claiming a pulse width modulating circuit. While the copending application is not claiming this feature, paragraph [0171] explains this feature, and therefore it would have been obvious to claim this feature.

***Regarding claim 14***, the current application is claiming that the electron emitters change from a first state to a second state when an electric field is applied and a drive circuit for controlling the voltage applied. While the copending application is not claiming these features, Figure 19 and paragraphs [0162]-[0169] explain these features, and therefore it would have been obvious to claim these features.

***Regarding claim 19***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 20***, this claim is rejected under the same rationale as claim 2.

***Regarding claim 28***, this claim is rejected under the same rationale as claim 10.

***Regarding claim 29***, this claim is rejected under the same rationale as claim 11.

***Regarding claim 32***, this claim is rejected under the same rationale as claim 14.

***Regarding claim 37***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 39***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 40***, this claim is rejected under the same rationale as claim 2.

***Regarding claim 41***, this claim is rejected under the same rationale as claim 10.

***Regarding claim 42***, this claim is rejected under the same rationale as claim 11.

***Regarding claim 46***, this claim is rejected under the same rationale as claim 14.

***Regarding claim 47***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 48***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 49***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 50***, this claim is rejected under the same rationale as claim 2.

***Regarding claim 51***, this claim is rejected under the same rationale as claim 10.

***Regarding claim 52***, this claim is rejected under the same rationale as claim 11.

***Regarding claim 56***, this claim is rejected under the same rationale as claim 14.

6. Claims 1,2,10,11,14,19,20,28,29,32,37,39-42,46-52 and 56 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being

unpatentable over claims 1-7 of copending Application No. 10/950,976. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are obvious variations of each other.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The following is an example for comparing claim 1 of this application and claim 1 of copending Application No. 10/950,976.

| Claim 1 of the current application | Claim 1 of copending Application No. 10/950,976 |
|---|---|
| A display apparatus having a plurality of electron emitters arrayed in association with a plurality of pixels, for emitting electrons from the electron emitters to display an image, | An electron emitter comprising: an emitter made of a dielectric material; and a first electrode and a second electrode for being supplied with a drive voltage for emitting electrons |
| each electron emitter including a first electrode and a second electrode in direct contact with said electron emitter, wherein: | said first electrode being disposed on a first surface of said emitter; said second electrode being disposed on a second surface of said emitter; at least said first electrode having a plurality of through regions which said emitter is exposed; |
| necessary charges are accumulated in all the electron emitters in a first period; | wherein electrons are emitted from said first electrode toward said emitter to charge the emitter in a first stage, |
| a voltage required to emit electrons is applied to all the electron emitters to cause a plurality of electron emitters which correspond to pixels to emit light therefrom, for emitting light from said pixels, in a second period after said first period; and | and electrons are emitted from said emitter in a second stage. |
| light is emitted from said pixels only during | |

| | |
|---|---|
| said second period. | |

As can be seen above, the first difference between claim 1 of the current application and claim 1 of copending Application No. 10/950,976is that claim 1 of the current application is claiming a display apparatus having a plurality of electron emitters for emitting electrons to display an image and claim 1 of copending Application No. 10/950,976 is only claiming an electron emitter, however, paragraph [0004] of copending Application No. 10/950,976 explains that electron emitters are used in FEDs, where a plurality of electron emitters are arranged in a two-dimensional array, which means that although this feature is not claimed in copending Application No. 10/950,976, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to claim this feature since it is a well known application of an electron emitter.

The second difference between claim 1 of the current application and claim 1 of copending Application No. 10/950,976 is that claim 1 of the current application claims "each electron emitter including a first electrode and a second electrode in direct contact with said electron emitter" while copending Application No. 10/950,976 claims "said first electrode being disposed on a first surface of said emitter; said second electrode being disposed on a second surface of said emitter," however, although it is not explicitly stated in the claim that the electrodes are in direct contact with the emitter, Figure 1 of copending Application No. 10/950,976 shows that the electrodes are in fact in direct

contact with the electron emitter and therefore it would have been obvious to claim this feature.

The third difference between claim 1 of the current application and claim 1 of copending Application No. 10/950,976 is that claim 1 of the current application claims "light is emitted from said pixels only during said second period" while copending Application No. 10/950,976 does not claim this feature, however, since light emission will only occur when the electrons are emitted from the emitter, light emission will only take place in the second period of copending Application No. 10/950,976, so while this feature is not claimed, it is implied, and therefore it would have been obvious to claim this feature.

The last difference between claim 1 of the current application and claim 1 of copending Application No. 10/950,976 is that claim 1 of the copending Application No. 10/950,976 claims "an emitter made of a dielectric material" and "at least said first electrode having a plurality of through regions which said emitter is exposed," while the current application does not claim these features, however, since the present claim 1 is in comprising format which includes any unclaimed features therefore, the present claim are not patentably distinct from the copending claim.

***Regarding claim 2***, the current application is claiming the drive circuit structure for scanning the electron emitters and that the charge amounts and electron emitted depend upon the luminance level of the pixels during the frame period. While the copending application is not claiming these features, Figure 19 and paragraphs [0178]-

[0184] explain these features, and therefore it would have been obvious to claim these features.

***Regarding claim 10***, the current application is claiming an amplitude modulating circuit. While the copending application is not claiming this feature, paragraph [0183] explains this feature, and therefore it would have been obvious to claim this feature.

***Regarding claim 11***, the current application is claiming a pulse width modulating circuit. While the copending application is not claiming this feature, paragraph [0187] explains this feature, and therefore it would have been obvious to claim this feature.

***Regarding claim 14***, the current application is claiming that the electron emitters change from a first state to a second state when an electric field is applied and a drive circuit for controlling the voltage applied. While the copending application is not claiming these features, Figure 19 and paragraphs [0178]-[0184] explain these features, and therefore it would have been obvious to claim these features.

***Regarding claim 19***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 20***, this claim is rejected under the same rationale as claim 2.

***Regarding claim 28***, this claim is rejected under the same rationale as claim 10.

***Regarding claim 29***, this claim is rejected under the same rationale as claim 11.

***Regarding claim 32***, this claim is rejected under the same rationale as claim 14.

***Regarding claim 37***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 39***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 40***, this claim is rejected under the same rationale as claim 2.

***Regarding claim 41***, this claim is rejected under the same rationale as claim 10.

***Regarding claim 42***, this claim is rejected under the same rationale as claim 11.

***Regarding claim 46***, this claim is rejected under the same rationale as claim 14.

***Regarding claim 47***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 48***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 49***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 50***, this claim is rejected under the same rationale as claim 2.

***Regarding claim 51***, this claim is rejected under the same rationale as claim 10.

***Regarding claim 52***, this claim is rejected under the same rationale as claim 11.

***Regarding claim 56***, this claim is rejected under the same rationale as claim 14.

7. Claims 1,2,10,11,14,19,20,28,29,32,37,39-42,46-52 and 56 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of copending Application No. 10/901,732. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are obvious variations of each other.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The following is an example for comparing claim 1 of this application and claim 1 of copending Application No. 10/901,732.

| Claim 1 of the current application | Claim 1 of copending Application No. 10/901,732 |
|---|---|
| A display apparatus having a plurality of electron emitters arrayed in association | An electron emitter comprising:<br>an emitter made of a dielectric material; |

| | |
|---|---|
| with a plurality of pixels, for emitting electrons from the electron emitters to display an image, | and a first electrode and a second electrode for being supplied with a drive voltage for emitting electrons |
| each electron emitter including a first electrode and a second electrode in direct contact with said electron emitter, wherein: | said first electrode being disposed on a first surface of said emitter; said second electrode being disposed on a second surface of said emitter; at least said first electrode having a plurality of through regions which said emitter is exposed; |
| necessary charges are accumulated in all the electron emitters in a first period; | wherein electrons are emitted from said first electrode toward said emitter to charge the emitter in a first stage, |
| a voltage required to emit electrons is applied to all the electron emitters to cause a plurality of electron emitters which correspond to pixels to emit light therefrom, for emitting light from said pixels, in a second period after said first period; and | and electrons are emitted from said emitter in a second stage. |
| light is emitted from said pixels only during said second period. | |

As can be seen above, the first difference between claim 1 of the current application and claim 1 of copending Application No. 10/901,732 is that claim 1 of the current application is claiming a display apparatus having a plurality of electron emitters for emitting electrons to display an image and claim 1 of copending Application No. 10/901,732 is only claiming an electron emitter, however, paragraph [0004] of copending Application No. 10/901,732 explains that electron emitters are used in FEDs, where a plurality of electron emitters are arranged in a two-dimensional array, which means that although this feature is not claimed in copending Application No. 10/901,732, it would have been obvious to "one of ordinary skill" in the art at the time

the invention was made to claim this feature since it is a well known application of an electron emitter.

The second difference between claim 1 of the current application and claim 1 of copending Application No. 10/901,732 is that claim 1 of the current application claims "each electron emitter including a first electrode and a second electrode in direct contact with said electron emitter" while copending Application No. 10/901,732 claims "said first electrode being disposed on a first surface of said emitter; said second electrode being disposed on a second surface of said emitter," however, although it is not explicitly stated in the claim that the electrodes are in direct contact with the emitter, Figure 1 of copending Application No. 10/901,732 shows that the electrodes are in fact in direct contact with the electron emitter and therefore it would have been obvious to claim this feature.

The third difference between claim 1 of the current application and claim 1 of copending Application No. 10/901,732 is that claim 1 of the current application claims "light is emitted from said pixels only during said second period" while copending Application No. 10/901,732 does not claim this feature, however, since light emission will only occur when the electrons are emitted from the emitter, light emission will only take place in the second period of copending Application No. 10/901,732, so while this feature is not claimed, it is implied, and therefore it would have been obvious to claim this feature.

The last difference between claim 1 of the current application and claim 1 of copending Application No. 10/901,732 is that claim 1 of the copending Application No.

10/901,732 claims "an emitter made of a dielectric material" and "at least said first electrode having a plurality of through regions which said emitter is exposed," while the current application does not claim these features, however, since the present claim 1 is in comprising format which includes any unclaimed features therefore, the present claim are not patentably distinct from the copending claim.

***Regarding claim 2***, the current application is claiming the drive circuit structure for scanning the electron emitters and that the charge amounts and electron emitted depend upon the luminance level of the pixels during the frame period. While the copending application is not claiming these features, Figure 19 and paragraphs [0181]-[0187] explain these features, and therefore it would have been obvious to claim these features.

***Regarding claim 10***, the current application is claiming an amplitude modulating circuit. While the copending application is not claiming this feature, paragraph [0186] explains this feature, and therefore it would have been obvious to claim this feature.

***Regarding claim 11***, the current application is claiming a pulse width modulating circuit. While the copending application is not claiming this feature, paragraph [0190] explains this feature, and therefore it would have been obvious to claim this feature.

***Regarding claim 14***, the current application is claiming that the electron emitters change from a first state to a second state when an electric field is applied and a drive circuit for controlling the voltage applied. While the copending application is not claiming these features, Figure 19 and paragraphs [0181]-[0187] explain these features, and therefore it would have been obvious to claim these features.

***Regarding claim 19***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 20***, this claim is rejected under the same rationale as claim 2.

***Regarding claim 28***, this claim is rejected under the same rationale as claim 10.

***Regarding claim 29***, this claim is rejected under the same rationale as claim 11.

***Regarding claim 32***, this claim is rejected under the same rationale as claim 14.

***Regarding claim 37***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 39***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 40***, this claim is rejected under the same rationale as claim 2.

***Regarding claim 41***, this claim is rejected under the same rationale as claim 10.

***Regarding claim 42***, this claim is rejected under the same rationale as claim 11.

***Regarding claim 46***, this claim is rejected under the same rationale as claim 14.

***Regarding claim 47***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 48***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 49***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 50***, this claim is rejected under the same rationale as claim 2.

***Regarding claim 51***, this claim is rejected under the same rationale as claim 10.

***Regarding claim 52***, this claim is rejected under the same rationale as claim 11.

***Regarding claim 56***, this claim is rejected under the same rationale as claim 14.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1 are rejected under 35 U.S.C. 102(e) as being anticipated by Takeuchi et al. (US 7,071,628).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131..

***Regarding claim 1***, Takeuchi et al. disclose a display apparatus having a plurality of electron emitters arrayed in association with a plurality of pixels, for emitting electrons from the electron emitters to display an image (Column 1, lines 18-27 explains that electron emitters are used in display devices, where the electron emitters are arranged in a two-dimensional array.), each electron emitter including a first electrode

and a second electrode in direct contact with said electron emitter (Figure 1 shows the two electrodes in direct contact with the emitter.), wherein:

necessary charges are accumulated in all the electron emitters in a first period (Column 9, line 63 to column 10, lines 9.);

a voltage required to emit electrons is applied to all the electron emitters to cause a plurality of electron emitters which correspond to pixels to emit light therefrom, for emitting light from said pixels, in a second period after said first period (Column 10, lines 17-35 and column 21, lines 11-20.); and

light is emitted from said pixels only during said second period (Since electrons are only emitted from the electron emitter in the second period for striking the phosphor, light will only be emitted during this period.).

***Regarding claim 14***, Takeuchi et al. disclose a display apparatus according to claim 1, wherein

said electron emitters have such characteristics that the electron emitters change to a first state in which electrons are accumulated when an electric field is applied in one direction to said electron emitters (Column 9, line 63 to column 10, lines 9.), and

change from said first state to a second state in which electrons are emitted when an electric field is applied in another direction to said electron emitters (Column 10, lines 17-35 and column 21, lines 11-20.), and

a drive circuit is controlled to apply a voltage between a voltage for changing the electron emitters to said first state and a voltage for changing the electron emitters to a

state immediately prior to said second state, to electron emitters which are unselected (Column 8, lines 13-23 explain that pulse generation source 22, i.e. a driver circuit, is used to control the voltage applied to the electron emitters.).

***Regarding claim 19***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 32***, this claim is rejected under the same rationale as claim 14.

***Regarding claim 37***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 39***, this claim is rejected under the same rationale as claim 1.

***Regarding claim 46***, this claim is rejected under the same rationale as claim 14.

***Regarding claim 47***, this claim is rejected under the same rationale as claim 39.

***Regarding claim 48***, this claim is rejected under the same rationale as claim 46.

***Regarding claim 49***, this claim is rejected under the same rationale as claim 19.

***Regarding claim 56***, this claim is rejected under the same rationale as claim 48.

***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMR A. AWAD
SUPERVISORY PATENT EXAMINER

SS

15 March 2007